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DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

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**TO:** Internal File

**THRU:** Greg A. Galecki, Reclamation Specialist/Team Lead *AG*

**FROM:** Wayne H. Western, Senior Reclamation Specialist *WHW*

**RE:** Mathis Tract Incidental Boundary Change (IBC), Andalex Resources Inc. Centennial Project Mine, C/007/019-IB02A-1

**SUMMARY:**

The Permittee proposes to add 240 acres of fee land to the existing permit. The additional 240 acres consist of fee land commonly called the Mathis Tract and increases the permit area by 4.64%. The coal in the Mathis Tract has overburden ranging from 2,600 feet to 2,900 feet. The mine plan for the Mathis Tract involves the acquiring additional State and Federal leases. The Division will evaluate the mine plan on the assumption that the Permittee acquires the State and Federal leases. If they do not then the Division will require that the Permittee modify the mine plan.

**TECHNICAL ANALYSIS:**

**ENVIRONMENTAL RESOURCE INFORMATION**

**PERMIT AREA**

Regulatory Requirements: 30 CFR 783.12; R645-301-521.

**Analysis:**

The Permittee proposes to add 240 acres to their existing permit area, which will increase the acreage from 5175 acres to 5415 acres. The 240-acre incidental boundary change is called the Mathis lease.

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**TECHNICAL MEMO**

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The Mathis lease is located in the southern part of Section 36, Township 12 South, Range 10 East. The location of the Mathis lease is shown on several maps including Plate 4 Centennial Project Leases.

**Findings:**

The Permittee has met the minimum requirements of this section of the regulations.

**MAPS, PLANS, AND CROSS SECTIONS OF RESOURCE INFORMATION**

Regulatory Reference: 30 CFR 783.24, 783.25; R645-301-323, -301-411, -301-521, -301-622, -301-722, -301-731.

**Analysis:**

**Affected Area Boundary Maps**

The Division usually considers the affected area to be the same as the permit area. The Division has no reason to find that the affected area and the permit area are different. Several maps submitted with the IBC show the proposed revision to the permit boundaries including Plate 1-A. These maps are adequate for the Division to identify the location of the Mathis lease.

The legal description of the Mathis Lease is given in Section R645-301-114 of the IBC application.

**Existing Structures and Facilities Maps**

The Permittee did not include a map that shows any existing structures or facilities in the Mathis Tract. The Permittee did state in Subpart 645-301-526.100 of the PAP that no existing structures in the Mathis lease

**Existing Surface Configuration Maps**

The Permittee included several maps that show the topography for the Mathis lease. Plate I shows the contours that appear to be based on USGS topographic maps. Because no surface facilities will be constructed and the only expected surface disturbance is subsidence detailed pre-mining, operational and post-mining topographic maps are not needed. The contour lines from the USGS are adequate to show the existing surface topography.

**Mine Workings Maps**

Plate 29, Isopachs, Current Mining, Mining Projections, Cover, Drillhole Locations, shows the past, present and proposed mine workings. The proposed mine workings are based on the assumption that both Federal and State leases will be acquired.

### **Permit Area Boundary Maps**

Several maps included in the PAP show the proposed changes to the permit boundary including Plate A-1. The legal description of the Mathis Lease is given in Section R645-301-114 of the application.

### **Surface and Subsurface Ownership Maps**

Plate 2 and Plate 3 show surface and mineral ownership respectfully.

### **Surface and subsurface manmade features maps**

The Permittee did not submit a map that is specifically labeled surface and subsurface manmade features map. As noted in section R645-301-526.110 no structures exist in the Mathis lease.

### **Contour Maps**

The Permittee included several maps that show the topography for the Mathis lease. Plate I shows the contours that appear to be based on USGS topographic maps. Because no surface facilities will be constructed and the only expected surface disturbance is subsidence detailed pre-mining, operational and post-mining topographic maps are not needed.

### **Findings:**

The Permittee has met the minimum requirements for supplying the Division with baseline maps.

## **OPERATION PLAN**

### **MINING OPERATIONS AND FACILITIES**

Regulatory Reference: 30 CFR 784.2, 784.11; R645-301-231, -301-526, -301-528.

### **Analysis:**

#### **Type and Method of Mining Operations**

Of the 2.3 million tons of coal in the Mathis Tract much of the coal will be left as part of barrier pillars according to the approved mine plan. The panel-barrier-panel mine design is needed because of the 2,600 feet to 2,900 feet of over burden and the massive sandstone formations above the coal. The barriers pillars are needed to prevent massive caving. Most mine usually mine only to 2,500 feet of over burden. Therefore, the Permittee is recovering coal that many operators would leave behind.

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**Facilities and Structures**

The Permittee does not propose to build any new surface facilities in connection with the Mathis Tract.

**Findings:**

The Permittee has met the minimum requirements for this section of the regulations.

**EXISTING STRUCTURES:**

Regulatory Reference: 30 CFR 784.12; R645-301-526.

**Analysis:**

As stated in Section R645-301-526.110 of the PAP no existing structures exist in the Mathis lease area.

**Findings:**

The information provided by the Permittee is adequate to meet the minimum requirements of the existing structures requirements of the regulations.

**RELOCATION OR USE OF PUBLIC ROADS**

Regulatory Reference: 30 CFR 784.18; R645-301-521, -301-526.

**Analysis:**

The Permittee will not relocate or use any roads in the Mathis Tract. Should any road in the Mathis Tract be damaged the Permittee would be required to mitigate the damage.

**Findings:**

The Permittee has met the minimum requirements for this section of the regulations.

**COAL RECOVERY**

Regulatory Reference: 30 CFR 817.59; R645-301-522.

**Analysis:**

The Mathis Tract is part of a larger section that the Permittee proposes to mine. The coal in the Mathis Tract is located under 2,600 feet to 2,900 feet of cover. Due to the deep cover and the massive sandstone formations above the coal, the Permittee will have to leave large barrier pillars. The design is similar to that already in use.

Most operators usually do not mine coal when the cover is greater than 2,500 feet. Therefore, any coal that the Permittee can recover is coal that usually not mined. The Division has review the general mining plan and determined that the Permittee is maximizing coal recover.

**Findings:**

The Permittee has met the minimum requirements for this section of the regulations.

**SUBSIDENCE CONTROL PLAN**

Regulatory Reference: 30 CFR 784.20, 817.121, 817.122; R645-301-521, -301-525, -301-724.

**Analysis:**

**Renewable Resources Survey**

The Permittee did not conduct a renewable resource survey specifically for the Mathis Tract. The current renewable resource survey identified water, grazing and wildlife habitat as renewable resources in the permit area.

Because the Permittee did not show that the Mathis Tract had no renewable resources, the Division assumes that they exist. Therefore, the Permittee must have a subsidence control plan for the Mathis Tract.

**Subsidence control Plan**

The subsidence control plan for the Mathis Tract is in the IBC PHC to Appendix L. The plan is as follows:

Because of the support of the unmined coal barriers and the structural strength of the overlying massive sandstone units, subsidence at the land surface is minimal to non-existent. It has been the experience at the Tower Mine that in areas where the overburden exceeds approximately 1,000 feet, no measurable subsidence at the land surface occurs (Tower Mine subsidence data, 2002.) Mining in the 240-acre IBC area will occur under more than 2,600 feet of cover. Thus, no subsidence in the IBC area is anticipated.

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**TECHNICAL MEMO**

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The 2000 annual subsidence survey showed that not measurable subsidence occurred at the Centennial project. Because of the deep cover and the barrier pillars the Division concerns with the general finding of no measurable subsidence.

**Performance Standards for Subsidence control**

The Permittee is required to mitigate any subsidence damage that should occur.

**Notification**

The Permittee is required to notify all surface owners 6 months before mining.

**Findings:**

The Permittee has met the minimum requirements of this section of the regulations.

**ROAD SYSTEMS AND OTHER TRANSPORTATION FACILITIES**

Regulatory Reference: 30 CFR Sec. 784.24, 817.150, 817.151; R645-301-521, -301-527, -301-534, -301-732.

**Analysis:**

No roads will be constructed as part of the Mathis Tract IBC.

**Findings:**

The Permittee has met the minimum requirements of this section of the regulations.

**SUPPORT FACILITIES AND UTILITY INSTALLATIONS**

Regulatory Reference: 30 CFR Sec. 784.30, 817.180, 817.181; R645-301-526.

**Analysis:**

No additional support facilities or utilities will be installed as part of the Mathis Tract.

**Findings:**

The Permittee has met the minimum requirements of this section of the regulations.

**MAPS, PLANS, AND CROSS SECTIONS OF MINING OPERATIONS**

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-512, -301-521, -301-542, -301-632, -301-731, -302-323.

## **Analysis:**

### **Affected area maps**

The Division usually considers the affected area to be the same as the permit area. Plate 1-A and other maps in the PAP show the proposed permit areas.

### **Mining facilities maps**

No new mine facilities will be built because of the Mathis Tract.

### **Mine workings maps**

Plate 29, Isopachs, Current Mining, Mining Projections, Cover, Drillhole Location, show the location of the current and proposed mine workings. The information on the Plate 29 is adequate for the Division to determine the general mine plan. The map also shows timing and sequence of the area.

### **Monitoring and sample location maps**

## **Findings:**

The information in the map section of the operation plan meets the minimum regulatory of this section of the regulations.

# **RECLAMATION PLAN**

## **APPROXIMATE ORIGINAL CONTOUR RESTORATION**

Regulatory Reference: 30 CFR Sec. 784.15, 785.16, 817.102, 817.107, 817.133; R645-301-234, -301-270, -301-271, -301-412, -301-413, -301-512, -301-531, -301-533, -301-553, -301-536, -301-542, -301-731, -301-732, -301-733, -301-764.

## **Analysis:**

No additional surface disturbance will take place. Therefore, no change to the AOC plan is needed.

## **Findings:**

The Permittee has met the minimum requirements of this section of the regulations.

**TECHNICAL MEMO**

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**BACKFILLING AND GRADING**

Regulatory Reference: 30 CFR Sec. 785.15, 817.102, 817.107; R645-301-234, -301-537, -301-552, -301-553, -302-230, -302-231, -302-232, -302-233.

**Analysis:**

No additional surface disturbance will take place. Therefore, no change to the AOC plan is needed.

**Findings:**

The Permittee has met the minimum requirements of this section of the regulations.

**MAPS, PLANS, AND CROSS SECTIONS OF RECLAMATION OPERATIONS**

Regulatory Reference: 30 CFR Sec. 784.23; R645-301-323, -301-512, -301-521, -301-542, -301-632, -301-731.

**Analysis:**

**Affected area boundary maps**

The Division usually considers the affected area to be the same as the permit area. Plate 1-A and other maps shows the proposed permit boundaries.

**Bonded area map**

There will be no changes to the disturbed area.

**Findings:**

The information in this section is adequate to meet the requirements for reclamation maps and cross-sections.

**BONDING AND INSURANCE REQUIREMENTS**

Regulatory Reference: 30 CFR Sec. 800; R645-301-800, et seq.

**General**

**Determination of bond amount**

Because no new surface disturbance will take place, no bond adjustment will occur at this



time.

**Findings:**

The Permittee has met the minimum requirements of this section of the regulations.

**RECOMENDATION:**

The Division should approve the incidental boundary change.